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I hereby certify that this PRELIMINARY AMENDMENT is being deposited with the U.S. Postal Service, with sufficient postage, as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231, on this 3rd day of May, 1999.

Typed or Printed name of person signing this certificate:
Wendy A. Arthurs

Signed: Wendy A. Arthurs



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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Jech, et al.

Serial No.: 09/148,126

Filed: September 4, 1998

For: **FUNCTIONALLY GRADED METAL
SUBSTRATES AND PROCESS FOR
MAKING SAME**

) Examiner: Not yet assigned
)
)

) Art Unit: 1722
)
)

) Attorney Docket No.: 20721/04010
)
)

Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Dear Sir or Madam:

Please amend the above-identified application as follows:

IN THE SPECIFICATION:

Page 4, line 1, after "features." insert the following new paragraph:

-- When the functionally-graded metal substrate is used in microelectronic packaging applications a heat generating chip is attached directly to the functional insert which is surrounded by the surrounding body. The functional insert preferably has a thermal conductivity that is greater than the thermal conductivity of the surrounding body. The functional insert conducts heat away from the chip to the environment or to a heat sink. Although the CTE of the functional insert is higher than the CTE of the surrounding body, the otherwise detrimental